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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,594	07/28/2003	Robert C. Sundahl	884.264US2	4636
21186	7590	09/26/2006	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402				NGUYEN, DONGHAI D
ART UNIT		PAPER NUMBER		
3729				

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief	Application No.	Applicant(s)	
	10/628,594	SUNDAHL ET AL.	
	Examiner	Art Unit	
	Donghai D. Nguyen	3729	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 01 September 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) The period for reply expires 3 months from the mailing date of the final rejection.
 b) The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
 (a) They raise new issues that would require further consideration and/or search (see NOTE below);
 (b) They raise the issue of new matter (see NOTE below);
 (c) They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 (d) They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
 5. Applicant's reply has overcome the following rejection(s): claims 11-13 and 31 (103 a rejection).
 6. Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
 7. For purposes of appeal, the proposed amendment(s): a) will not be entered, or b) will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: None.

Claim(s) objected to: 11-13 and 31.

Claim(s) rejected: 1-10 and 23-28.

Claim(s) withdrawn from consideration: None.

AFFIDAVIT OR OTHER EVIDENCE

8. The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
 9. The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
 10. The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
 12. Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____.
 13. Other: _____.

Continuation of 11. does NOT place the application in condition for allowance because: The request for reconsideration of rejection claims 1-13 and 23-31 has been carefully reviewed but does not place the case in condition for allowance for the reason provided in the prior Office Action dated 6/22/06. Further, regarding Applicants objection to the Official Notice (see "Remarks" page 6, 2nd paragraph). The Examiner did not take Official Notice but rejected the claims base on design choice and requested Applicants to provide the reasons whether the claimed bonding techniques solve the stated problem or for any particular reason since both DiStefano et al teach the equivalent bonding technique, i.e., soldering.

Regarding 102 rejection of claim 23, Applicants argue that DiStefano '446 and DiStefano '754 do not teach the core/spacer directly contacts the second bonding pad ("Remarks" pages 7-9). The Examiner disagrees because DiStefano '446 reference teach core/spacer (30) without solder can be directly contacted/engaged to second bonding pad (52, see Col. 11, lines 8-19). Note Examiner agrees that DiStefano et al disclose the core/spacer bonds to the contact pad by the pad bonding material or second solder but silent in how the pad bonding material or second solder is used. The Examiner broadly interprets the spacer without solder coated thereon is directly contacted/engaged to the second bonding pad (see and Col.3, lines 30-33). Also DiStefano '754 reference teach core/spacer (42) with or without solder can be directly contacted/engaged to second bonding pad (22-26, 52 or 104, see Fig. 4) after the solder (40) has been reflowed.

Regarding claims 24-27, Applicants also argue that DiStefano '446 do not disclose the applying of conductive material and heating it ("Remarks" page 8, 1st and 2nd paragraph). The examiner disagrees because reference '446 disclose applying the solder (32, 154, or 132) in proximity area of the spacer and first bonding pad (26/152) and heating the conductive material to directly bonding the contact pads (see Figs. 1-2). Applicants also argue that DiStefano '754 do not disclose the applying of conductive material ("Remarks" page 9, 2nd paragraph). The examiner disagrees since reference '754 disclose applying the solder (44) in proximity area of the spacer and first bonding pad (22-26, see fig. 3).

Regarding claims 1-9, Applicants argue that the combination of either DiStefano and Wei do not teach the core/spacer directly contacts the second bonding pad ("Remarks" page 10, 1st and 2nd paragraphs), the examiner disagrees for the reason provided above. Further Applicants argue that DiStefano and Wei teach different things from each other and there is no motivation to combine the different teachings. The Examiner disagrees since both DiStefano and Wei both teach the method of interconnecting circuit board and the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both DiStefano references teach the interconnection between circuit boards using through interconnection structures that provides precise interconnection between circuit boards that using in Wei invention or vice versa.

Regarding claims claim 30, Applicants argue that applied references do not teach the display elements are being isolated from each other by a dielectric material ("Remarks" page 12, 1st paragraph). The Examiners disagree because at least Wei et al reference teaches the display elements (16) are isolated by dielectric material (15) or each contact pads of DiStefano are isolated by dielectric material (see Fig. 4).

Regarding claims 28-29, Applicant argue the combined references do not teach "the isolating the insulating material from the first and second bonding pads" ("Remarks", pages 14-15). The Examiner disagrees because the insulation and contact pads are made of different material they are isolated from one another.

Regarding claims 11-13 and 31, Applicants' arguments under the "Remarks" (pages 12-14) has been considered and are persuasive, therefore, the Examiner agrees that the combined teachings lacking of injecting insulating material into interface region by vacuum fill process of claim 11; and applying the insulating material to one of the circuit board and partially cure before attaching the circuit board together as recited in claim 12 and first circuit board is ceramic (claim 31, line 3). These claims are objected to and would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

DN

September 18, 2006



MINH TRINH
PRIMARY EXAMINER